

UNDERGRADUATE MATHEMATICS ~~SEMINAR~~ PICNIC

No seminar during this last week of classes.

Instead, please join us at the **Math Department's "End of the Year Picnic"!**

WHEN: Monday, June 2nd 4:00 – 6:30

WHERE: The Courtyard between Bailey and Butterfield Halls

WHAT: Food, Drinks, and Volleyball. Bring your own Frisbees or other outdoor games.

Hope to see you there!

Spring 2008 Math Final Exam Schedule

<u>Course #</u>	<u>Course Name</u>	<u>Professor</u>	<u>Room</u>	<u>Day</u>	<u>Date</u>	<u>Time</u>
IMP*113*01	Int Math/Physics 3: Part 1	Niefield, S.	NWSE 112	Mon	June 09	8:30 - 10:30 A.M.
IMP*113*01	Int Math/Physics 3: Part 2	Niefield, S.	NWSE 112	Wed	June 11	2:30 - 4:30 P.M.
MTH*056*01	History of Mathematics	Plofker, K.	BAIL 201	Tue	June 10	2:30 - 4:30 P.M.
MTH*060*01	Mathematics & Politics	Barbanel, J.	OLIN 115	Mon	June 09	7:30 - 9:30 P.M.
MTH*060*02	Mathematics & Politics	Barbanel, J.	OLIN 115	Mon	June 09	7:30 - 9:30 P.M.
MTH*102*01	Calculus with Precalc 3	Taylor, A.	BAIL 100	Mon	June 09	8:30 - 10:30 A.M.
MTH*112*01	Calculus 2	Plofker, K.	BAIL 104	Wed	June 11	8:30 - 10:30 A.M.
MTH*115*01	Calculus 3	Zimmermann, K.	BAIL 104	Tue	June 10	2:30 - 4:30 P.M.
MTH*115*02	Calculus 3	Johnson, B.	BAIL 207	Tue	June 10	2:30 - 4:30 P.M.
MTH*117*01	Calculus 4	Blue, J	BAIL 100	Wed	June 11	11:30 - 1:30 P.M.
MTH*117*02	Calculus 4	Wang, J.	BAIL 207	Mon	June 09	2:30 - 4:30 P.M.
MTH*130*01	Differential Equations	Black, K.	BAIL 207	Wed	June 11	11:30 - 1:30 P.M.
MTH*130*02	Differential Equations	Wang, J.	BAIL 207	Mon	June 09	8:30 - 10:30 A.M.
MTH*199*01	Intro to Logic & Set Theory	Zwicker, W.	BAIL 102	Tue	June 10	2:30 - 4:30 P.M.
MTH*224*01	Geometry	Friedman,	BAIL 106	Tue	June 10	8:30 - 10:30 A.M.
MTH*234*01	Differential Equations	Black, K.	BAIL 201	Mon	June 09	2:30 - 4:30 P.M.
MTH*332*01	Abstract Algebra	Zimmermann, K.	BAIL 104	Tue	June 10	8:30 - 10:30 A.M.

Pieces from Theses: A View from Katie Bellucci ('08)

Last spring I was excited to learn that I would be studying the mathematics of navigation with Brenda Johnson for my senior thesis. I thought the topic was interesting, but truthfully I had no idea what it would entail. However, after sitting through the first few meetings with my advisor I knew I would enjoy this experience and learn a thing or two along the way.

My research began by exploring the historical aspect of navigation at sea. I discovered that quest for longitude spanned several centuries and affected major world powers both politically and economically. Because of this many mathematicians, scientists, and astronomers focused their studies on navigation. Eventually, as a result of a worldwide collaboration of the sciences some accurate methods were produced for finding longitude at sea.

After studying the chronology of various contributions I decided to start with the derivation of Kepler's laws of planetary motion. These laws were introduced by Johannes Kepler and derived using Newton's law of gravitation. They provided the information necessary to accurately predict the motion of celestial bodies.

One of the most important mathematical applications with regard to navigation at sea involves spherical trigonometry. Spherical trigonometry defines the properties of a triangle lying on a sphere. In my thesis I derived the law of sine and cosine for spherical trigonometry and used them to find positions on the earth. These were particularly relevant because they allow crucial values to be pre-computed for finding positions at sea. I chose this topic to present at HRUMC and Steinmetz Symposium because it was the most mathematically relevant and interesting part of my thesis. It's not a topic we as undergraduates have learned much about but it is relatively easy to follow because of our understanding of planar trigonometry.

Overall I thought writing my senior thesis was a rewarding experience. It allowed me to produce a paper that I felt proud of. I was also able to work with a professor that was enthusiastic about the material. Although writing a senior thesis may seem like a daunting task, it is very doable with the right resources and fitting subject matter.

Thank you, CHC Tutors! Please join me in thanking the spring tutors – **Susan Beckhardt, Ronghua Dai, and Laura Hutchinson** – for their contributions to the success of this valuable resource. See you next year!

Problem of the Newsletter

Last week's problem and solution: Complete the additive alphametic by determining the correct digit for each letter:

ROOK + TO + KING + THREE = CHECK, where KING is even and CHECK is odd.

Solution:

$$8771 + 57 + 1234 + 50899 = 60961$$

This is the last newsletter of the term!

Good luck on your finals!

Found on the Math Common Room's Blackboard

- Mathematical puns are the first sine of madness.
- There are only 10 kinds of people, those who understand binary and those who don't.